CLAIMS

What is claimed is:

1. A method, comprising:

pre-heating an embossable film, disposed above a disk substrate, to approximately an embossing temperature; and

transporting the substrate to an embossing nest, while maintaining the approximate embossing temperature, using a pickup head that does not contact the substrate.

2. The method of claim 1, further comprising centering the substrate in the embossing nest.

3. The method of claim 1, wherein transporting further comprises positioning the substrate in a pickup head with gas pressure.

4. The method of claim 1, further comprising resting the substrate in the embossing nest.

5. The method of claim 4, wherein resting further comprises floating the substrate on a cushion of gas.

6. The method of claim 1, further comprising embossing the embossable film.

7. The method of claim 5, wherein the cushion of gas has a temperature at the approximate embossing temperature.

8. The method of claim 6, wherein embossing comprises nano-imprinting the embossable film disposed above a disk substrate.

9. The method of claim 8, further comprising forming a discrete track recording pattern on the embossable film disposed above the disk substrate.

10. The method of claim 6, further comprising picking up the substrate from the embossing nest with gas pressure at the approximate embossing temperature.

11. The method of claim 10, further comprising cooling the disk substrate with gas pressure from the pickup head.

12. The method of claim 2, wherein centering further comprises engaging an outer dimension of the substrate with a plurality of rods coupled to actuators.

13. The method of claim 12, wherein centering further comprises controlling the actuators with an actuator control algorithm.

14. A method, comprising:

positioning a disk, having a hole defined by an inner diameter edge of the disk, over a nest; and

guiding the disk into close proximity of the nest by directing gas into the inner diameter hole of the disk.

15. The method of claim 14, wherein positioning further comprises admitting gas into a first port to distribute around a manifold of a pickup head that receives the disk.

16. The method of claim 15, wherein positioning further comprises creating a low gas pressure and a positive gas pressure within the manifold to suspend the disk into close proximity of the manifold.

17. The method of claim 16, wherein guiding further comprises transferring gas to a second port coupled to a plurality of gas jets directed towards the hole of the disk.

18. The method of claim 16, wherein creating the low gas pressure and the positive gas pressure produces a Bernoulli effect.

19. The method of claim 14, further comprising centering the disk within the nest.

20. The method of claim 14, further comprising maintaining the gas at an elevated temperature.

21. The method of claim 20, wherein the elevated temperature comprises an embossing temperature.

22. The method of claim 20, further comprises nano-imprinting an embossable film disposed above the disk substrate.

23. The method of claim 17, wherein transferring gas to the second port further comprises directing gas flow to an inner diameter of the disk.

24. The method of claim 19, wherein centering further comprises engaging an outer dimension of the disk with a plurality of rods coupled to actuators.

25. An apparatus, comprising:

means for transporting a disk substrate having an embossable film; and

means for maintaining isothermal conditions of the embossable film while transporting the disk substrate to an imprinting die set.

26. The apparatus of claim 25, further comprising pre-heating the embossable film to an approximate embossing temperature.

27. The apparatus of claim 25, wherein transporting comprises suspending the disk substrate in a pickup head.

28. The apparatus of claim 25, further comprising means for suspending the disk substrate within the imprinting die set.

29. The apparatus of claim 28, further comprising means for centering the disk substrate within the imprinting die set.

30. An apparatus, comprising:

a disk substrate manifold;

a first port coupled to the disk substrate manifold;

a plurality of gas jets disposed near a center portion defined by an inner diameter of the disk substrate manifold; and

a second port coupled to the plurality of gas jets, the plurality of gas jets to blow gas into the center portion within the inner diameter of the disk substrate.

31. The apparatus of claim 30, further comprising a robotic arm coupled to the disk substrate manifold.

32. The apparatus of claim 30, wherein the first and second ports are coupled to a heat source.

33. The apparatus of claim 30, wherein gas blown into the center portion creates a gas cushion for the disk substrate.